

Eye on Endemics: Caribbean Originals



by Mark Yokoyama

Only on St. Martin

A lizard that only lives on one island, a bird found on only a few: these are the endemic species that make our region—and each island within it—so special.

They are the descendents of creatures that made their way across the sea and then hopped from island-to-island. They are the survivors that managed to persevere and prosper. They are the living manifestations of evolution, adapting to each new island home until they became new varieties and new species.

On St. Martin, many of these animals are familiar companions—tree lizards and ground lizards, the Sugar Bird and the Redbreast. It can be astounding to realize that some of the most common creatures here are found literally nowhere else on earth.

So many things make St. Martin unique, but these Caribbean originals—flying, climbing and crawling amongst us—may be the purest expression of “only on St. Martin” that one could ever hope to find.



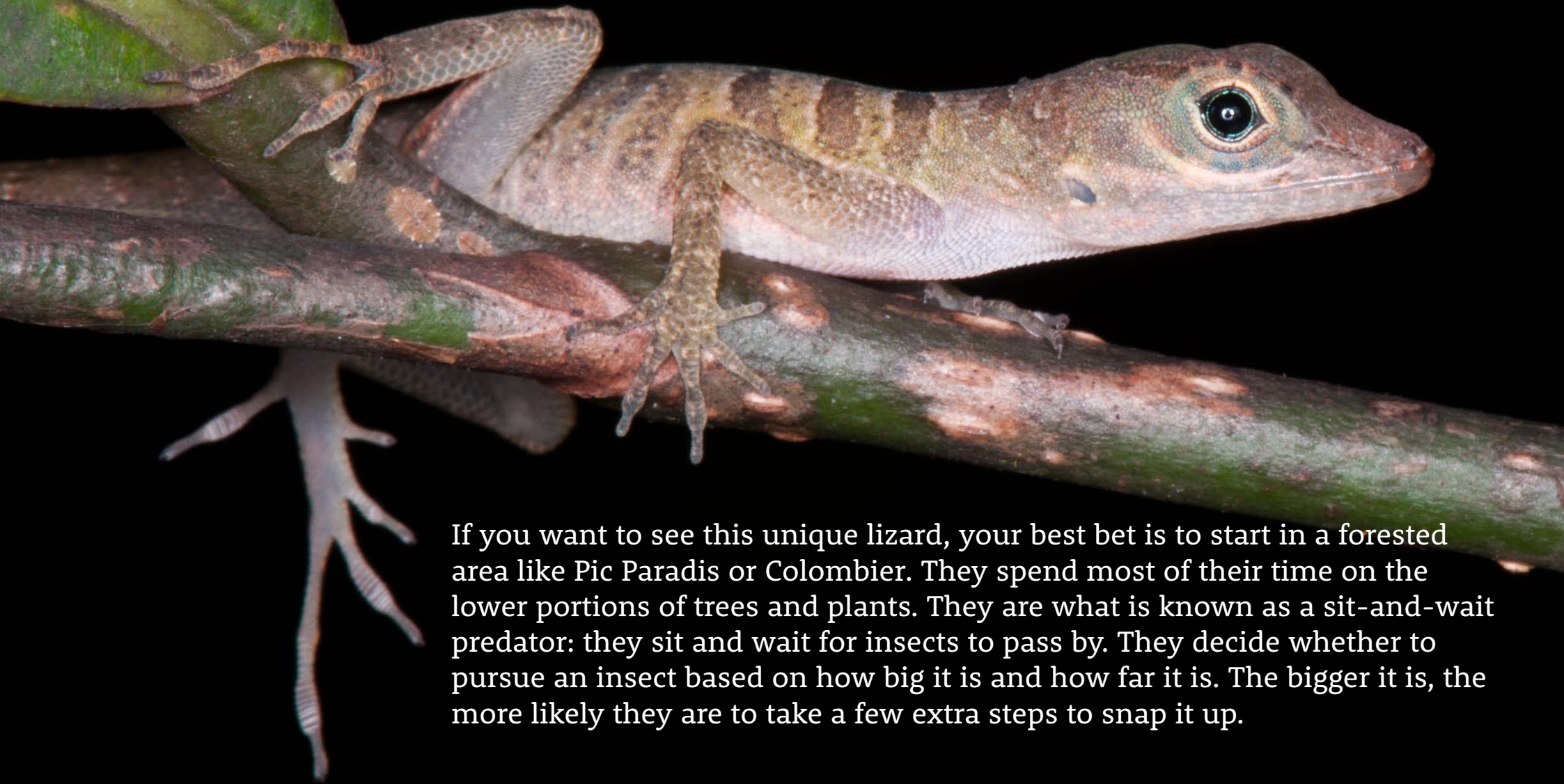
Jewel of the Forest

If you washed up on a random Caribbean beach, you would be able to narrow down your location to an island or two just by looking at the lizards. That's because lizards evolved into new and distinct species as they slowly made their way from island to island. To identify your location as St. Martin, you'd only need to see one lizard, the Bearded Anole, but first you'd need to walk to a forest.

The Bearded Anole (*Anolis pogus*) is found only on St. Martin, and is one of two native anoles that live on the island. Its cousin, the Anguilla Bank Anole (*Anolis gingivinus*) is found on St. Martin, Anguilla, St. Barths and the smaller islets in the area. The Bearded Anole also lived on Anguilla until the 1920s, but hasn't been seen there since, making St. Martin the only island in the world where it can be seen.



The Bearded Anole is a forest dweller. It has a relatively low tolerance for heat, restricting it to forests and other sufficiently shady areas. In the right habitat they can be quite common, but the species is considered vulnerable because their range is limited to the suitable areas of a single island. Lack of forest is probably the cause of its demise on Anguilla.



If you want to see this unique lizard, your best bet is to start in a forested area like Pic Paradis or Colombier. They spend most of their time on the lower portions of trees and plants. They are what is known as a sit-and-wait predator: they sit and wait for insects to pass by. They decide whether to pursue an insect based on how big it is and how far it is. The bigger it is, the more likely they are to take a few extra steps to snap it up.

Describing this lizard can be quite a challenge. It may be yellow and tan, brown or gray. It may have bright blue around its eyes or red on the top of its head. When in a fighting mood, black crescents appear behind its eyes. Adults often have faint, irregular bands, while young bearded anoles have a light stripe down their back and distinct dark blotches.

One thing they don't have is a beard. Their name comes from a debate, a cartoon character and a misinterpretation. The debate was whether or not scientific names should have a particular meaning or describe the animal in some way. A young scientist chose the name *pogus* because it had absolutely nothing to do with the animal itself. It actually came from the cartoon character Pogo the Possum.



Years later, other scientists guessed—incorrectly—that the name came from the Greek *pogo*, meaning beard or beard-like, and called it the Bearded Anole. In the end, it proved that scientific names didn't need to be meaningful, but also showed scientists couldn't resist searching for a meaning regardless.

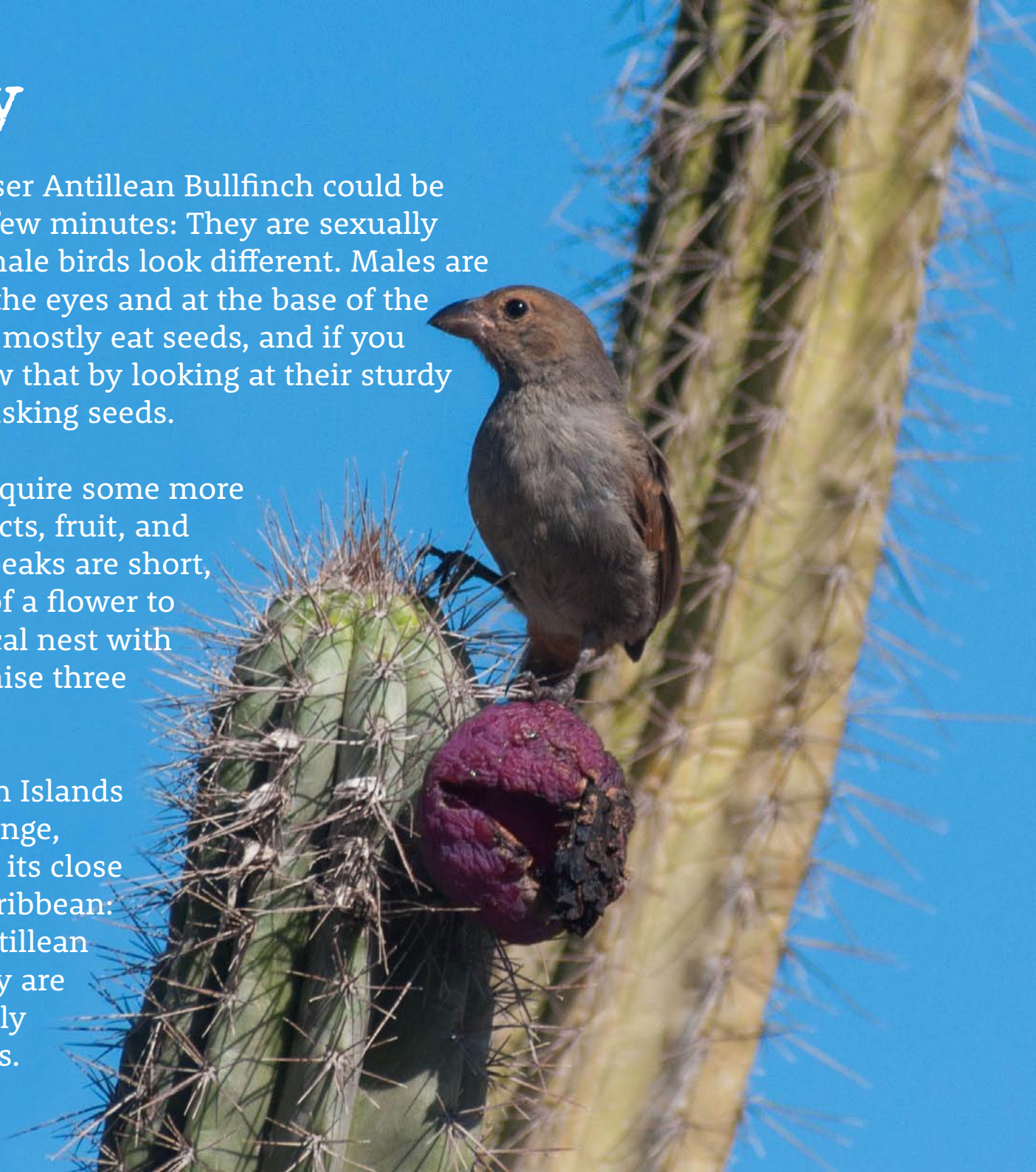
Beard or no, it's an exquisite creature worth seeing and worth saving. Luckily, in an era when so many species are in peril, it seems to be thriving on St. Martin. An increase in tourism and decline in agriculture has left some hillsides free to reforest themselves. Even some hotels, with lush landscaping, have created new pockets of shady habitat where the Bearded Anole can be found. Keep an eye out for it and you can have a wildlife encounter that is possible only on St. Martin.

Ready for Study

Much of what we know about the Lesser Antillean Bullfinch could be gathered just by watching them for a few minutes: They are sexually dimorphic, meaning the male and female birds look different. Males are black with orange on the chin, above the eyes and at the base of the tail. Females are entirely brown. They mostly eat seeds, and if you didn't see them eating, you'd still know that by looking at their sturdy beaks, which are clearly adapted to husking seeds.

A few of the things we know would require some more detailed observation. They do eat insects, fruit, and nectar from time to time. Since their beaks are short, they usually make a hole at the base of a flower to access the nectar. They build a spherical nest with an entrance on the side, where they raise three or four chicks at a time.

This species is only found in the Virgin Islands and Lesser Antilles, and within that range, eight subspecies are recognized. All of its close relatives are also found only in the Caribbean: the Puerto Rican Bullfinch, Greater Antillean Bullfinch and Barbados Bullfinch. They are from the tanager family, and not closely related to other birds called bullfinches.



Locally, they are sometimes known as the Robin or Redbreast. Although they are not as common or noisy as some of our birds, they can often be seen in town if you are looking for them. We leave a bowl of seeds on our veranda and a pair of bullfinches come each day. If the bowl is empty or the seeds are wet, they will fly in through the open door, as if to remind us that we need to replenish the seeds.



There is much we have yet to learn about the Lesser Antillean Bullfinch. They are often seen in pairs, but how strong and lasting is that bond? How long do they live? How much do the populations differ from island to island? How much do male bullfinches contribute to rearing chicks? What native plant species are most important to their diet?

The Lesser Antillean Bullfinch—like so many of our birds—offers a wide variety of opportunities for study. Understanding this bird may even help us unlock some of the mysteries of how species develop and how island ecosystems work.

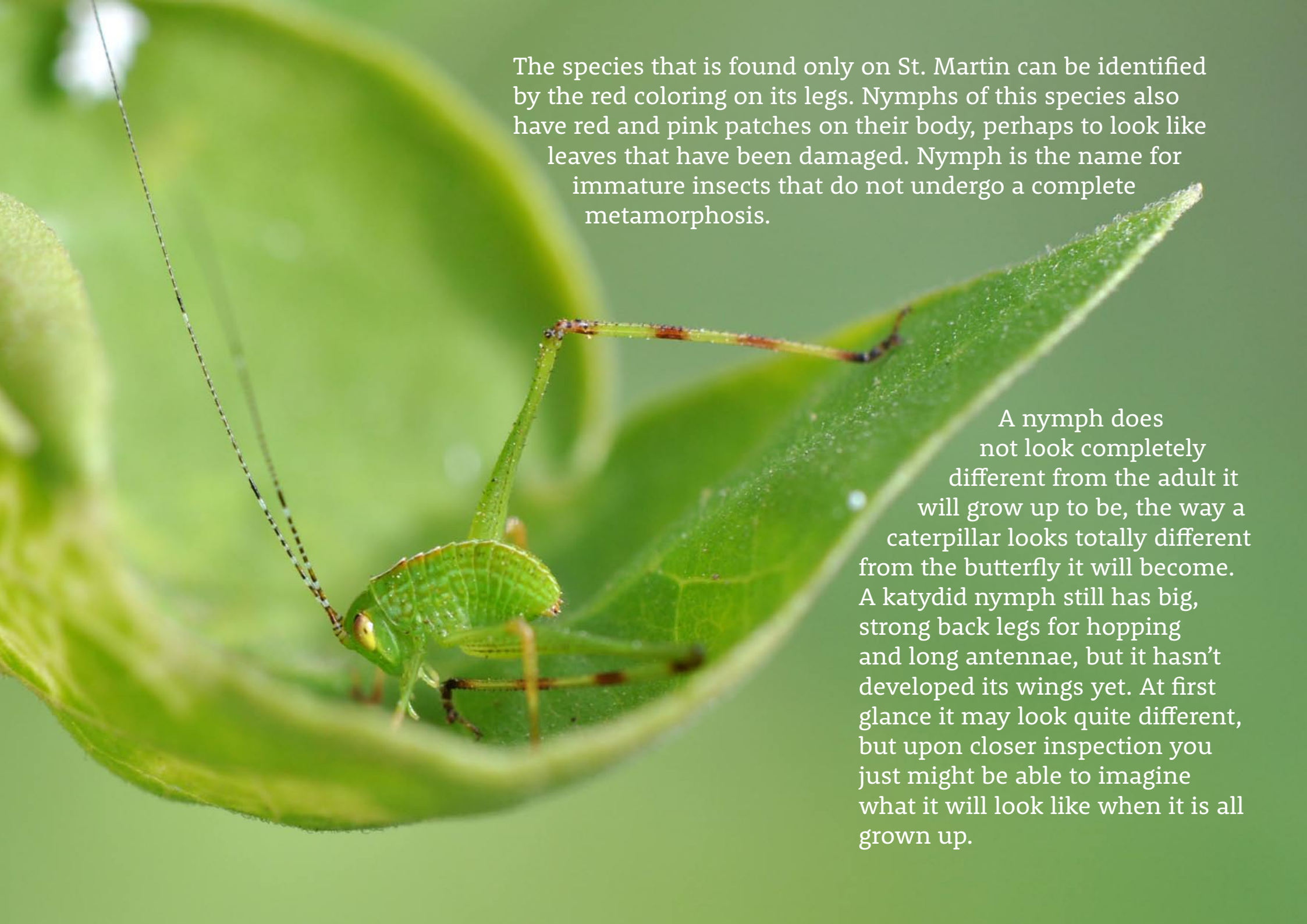
Hopefully, a new generation of biologists—perhaps ones who grew up right here, listening to the cheery call of the Lesser Antillean Bullfinch—will find the time to learn the secrets of this species.



Leaf-Mimic Katydid

Katydids are closely related to grasshoppers and crickets, and many species have evolved to look like leaves as a form of camouflage. On St. Martin, we have two species of bright green katydid with angular wings that make them look like leaves. One species is found in many parts of the Caribbean, and the other was discovered on St. Martin and is known only from this island.





The species that is found only on St. Martin can be identified by the red coloring on its legs. Nymphs of this species also have red and pink patches on their body, perhaps to look like leaves that have been damaged. Nymph is the name for immature insects that do not undergo a complete metamorphosis.

A nymph does not look completely different from the adult it will grow up to be, the way a caterpillar looks totally different from the butterfly it will become. A katydid nymph still has big, strong back legs for hopping and long antennae, but it hasn't developed its wings yet. At first glance it may look quite different, but upon closer inspection you just might be able to imagine what it will look like when it is all grown up.

Black-faced Grassquit

Back in the first half of the 20th century, author S.J. Kruythoff commented that the Black-faced Grassquit was the “commonest of all birds on the [Windward Netherlands Antilles] islands.” The variety of local names we have for this bird on St. Martin indicate it was indeed a familiar friend of St. Martiners: Tobacco Seed, Chee-chee Bird and Sparrow were used in English and Mangeur d’herbes and Ci-ci-z’herbes in French.

The male grassquit, true to its name, has a black head and breast and is a dark greenish brown elsewhere. The female is plain brown with a lighter belly. It is a small bird, similar in size to the Sugar Bird, and noticeably smaller than the Lesser Antillean Bullfinch. Their chirpy call is often written as ‘zeezezee’ and is probably the reason for the name Chee-chee Bird.





The Black-faced Grassquit has a number of similarities to the Bananaquit or Sugar Bird. They are both primarily Caribbean species, they both build covered nests and they both have evolutionary origins that we are still trying to understand.

The grassquits (there are a half-dozen species in the American tropics) are now placed in the tanager family. They are a sister group to a much more famous group of sparrow-like tanagers: Darwin's finches from the Galapagos. Although our grassquit didn't inspire the most important biological concept of all time, it is notable that members of the tanager family have been so adept at colonizing islands and adapting to new ecological niches.



Although it may not be the commonest of all birds on St. Martin today, the Black-faced Grassquit can still be seen all over the island. It is most common in scrub and pasture areas where it can easily find the grass and plant seeds that make up most of its diet. It can also be seen from time to time in urban areas. A cheerful companion to island life, as we learn more about its evolutionary relationship with other tanagers we may also learn more about the ecological past of the Caribbean and the mechanics of evolution itself.

Spotted Woodslave

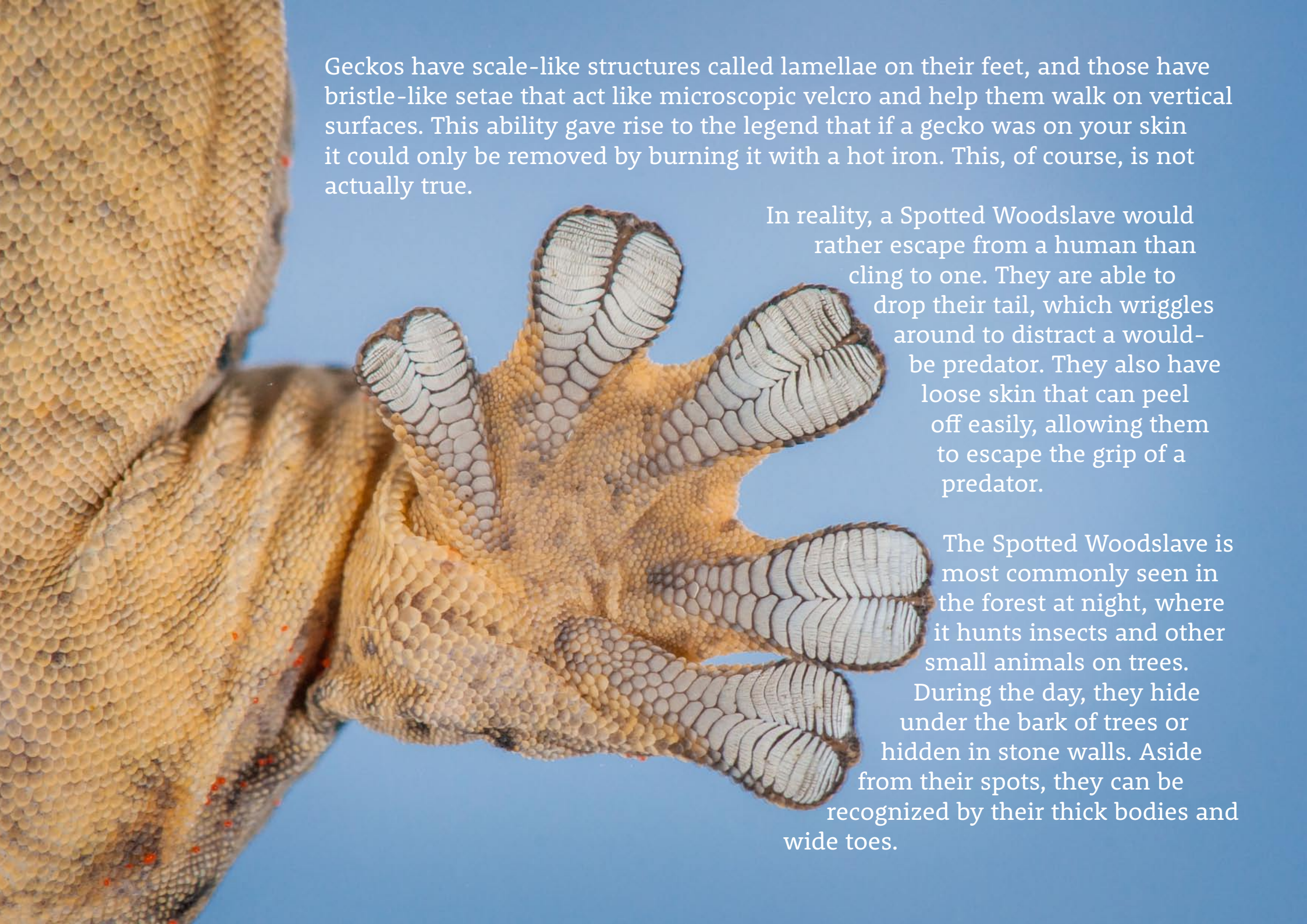
The Spotted Woodslave is a species of gecko that is found only on St. Martin. It was only described as a distinct species in 2011. Before then, our Spotted Woodslaves were thought to be Turnip-tailed Geckos with a different pattern on their skin.

A comparison of the Spotted Woodslave and Turnip-tailed Gecko makes a good example of how complex it can be to tell which animal populations are truly separate species and which are just variations within a species. In truth, there is no simple rule that determines whether animals are a separate species or not. Biologists even have a name for the difficulty of defining what a species is: the species problem.



In the case of the Spotted Woodslave, the distinctive spotted pattern is only found on St. Martin and nowhere else in the world. Also, the authors of the paper that described it as a species noted differences in the number of scales around the mouth between the two species and some other small differences. Today, DNA analysis can also play a part in determining how closely-related different animals are and if they should be considered separate species.



A close-up photograph of a Spotted Woodslave gecko. The image shows the underside of its foot, which is covered in a dense pattern of small, light-colored scales. The foot is extended, showing the arrangement of the toes. The body of the gecko is visible on the left, showing a similar scale pattern and some darker spots. The background is a solid, light blue color.

Geckos have scale-like structures called lamellae on their feet, and those have bristle-like setae that act like microscopic velcro and help them walk on vertical surfaces. This ability gave rise to the legend that if a gecko was on your skin it could only be removed by burning it with a hot iron. This, of course, is not actually true.

In reality, a Spotted Woodslave would rather escape from a human than cling to one. They are able to drop their tail, which wriggles around to distract a would-be predator. They also have loose skin that can peel off easily, allowing them to escape the grip of a predator.

The Spotted Woodslave is most commonly seen in the forest at night, where it hunts insects and other small animals on trees. During the day, they hide under the bark of trees or hidden in stone walls. Aside from their spots, they can be recognized by their thick bodies and wide toes.

Gray Kingbird

Most of the local names for the Gray Kingbird—Pitirre, Pipirite and Chincherry—are derived from its chipper, chattery call. In the Lesser Antilles it also has a name that is almost never spoken.

The unspoken name is *vorax*, derived from the latin for devouring. It is the subspecies name for the Gray Kingbirds living in the Lesser Antilles. The species can be found from Florida, through Central America, the Caribbean and northern South America, but currently they are only grouped into two subspecies: ours in the Lesser Antilles and all the rest.

Subspecies, of course, are a difficult thing to determine, and may be controversial. What differences are significant and consistent enough to be worth distinguishing? 65 years ago, there were five subspecies of Gray Kingbird, but the progress of science has whittled these down to the two that remain today.



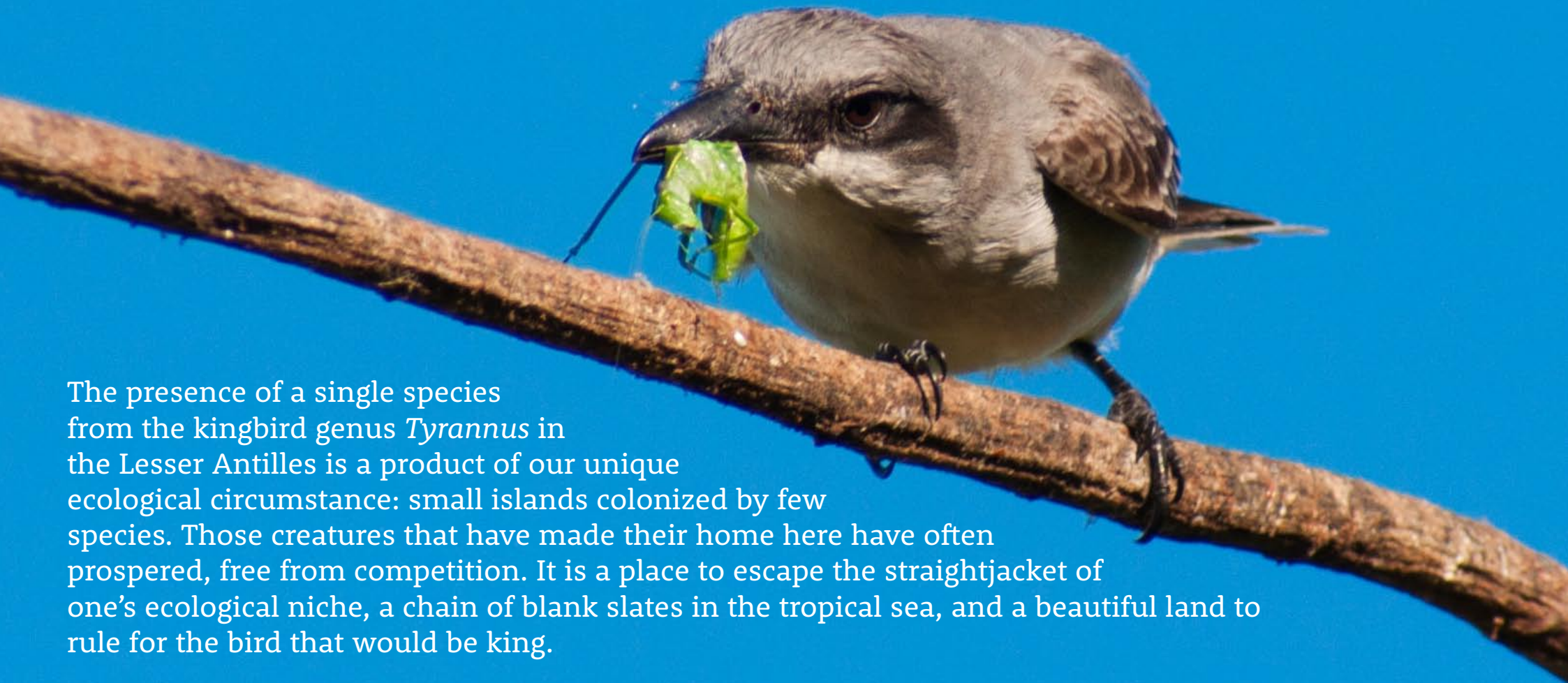
What is the big difference? The average size of Gray Kingbirds does vary from place to place, and ours are generally on the large side, but the main difference is that ours have a darker gray plumage on their backs. It is a fine line to draw, but subspecies names are used to designate populations with differences too small to make them separate species.



The fact that we have a distinct subspecies is fairly trivial on its own. It is more interesting to consider why. It doesn't seem to be simple geography: the Kingbirds to the north and south and west are all the same while ours are distinct. It doesn't seem to reflect the requirements of a unique habitat, either. Those living on dry, low-lying islands like St. Martin are one with the populations on wet, mountainous islands like Dominica.

The forces that shape evolution are vast and complex, so it is likely that there are many factors nudging our Gray Kingbirds in their own unique direction. One may be good, old-fashioned competition. In the Lesser Antilles the Gray Kingbird is an only child of sorts. On islands to the north and west there are Loggerhead Kingbirds, on Cuba, the Giant Kingbird, in Central and South America, the Tropical Kingbird. Kingbird kin abound everywhere but here.

The presence of a single species from the kingbird genus *Tyrannus* in the Lesser Antilles is a product of our unique ecological circumstance: small islands colonized by few species. Those creatures that have made their home here have often prospered, free from competition. It is a place to escape the straightjacket of one's ecological niche, a chain of blank slates in the tropical sea, and a beautiful land to rule for the bird that would be king.



Broken Bill

Perhaps the most interesting Gray Kingbird to live on St. Martin was an individual living near the Pinel Ferry dock in Cul-de-Sac in 2014. He was named Broken Bill because a large portion of his beak was broken off—about half of the upper beak.

While the ability to fly has given birds the remarkable ability to travel around the world, they had to give up their front limbs for this talent. Much of what we might do with our hands, a bird must do with its beak and its feet.

For a kingbird like Broken Bill, his beak is his primary hunting tool, used to capture flying insects in the air. Surely, his injury made hunting difficult—if not impossible—like trying to eat with just one chopstick. It seemed likely that poor Broken Bill would quickly starve.

During the time he was seen on the island, there were also many migratory shorebirds on the beach in Cul-de-Sac. Sargassum algae washed up on the beach was being eaten by small crustaceans and insects—a rich source of food, perfect for shorebirds who are adapted to pick small creatures from mud or shallow water. This is not a common feeding strategy for the Gray Kingbird.



Surprisingly, Broken Bill survived for some time and seemed to adopt the shorebird strategy of feeding on insects and crustaceans in the Sargassum. He was seen on many occasions foraging on the mounds of seaweed.

Did he learn this behavior from watching the other birds? The change in feeding behavior was dramatic, especially for a species that has such a specific method of hunting.

Although it is possible for smaller chips and fractures to heal as a bird's beak grows out, it is unclear if an injury this severe would grow back. In most cases, a bird would starve long before the beak could grow back.

After about a week, Broken Bill was no longer seen in the area. Perhaps his new feeding technique didn't work well enough, but perhaps it was enough to sustain him and he just moved on down to another beach.



A photograph of a Caribbean Elaenia bird perched on a thin, brown branch. The bird is facing right, showing its profile. It has a brown head, a dark eye, and a long, thin, reddish-brown beak. Its body is a mix of brown and olive-green, with a lighter underside. The background is a soft, out-of-focus green, suggesting foliage. The bird's feet are visible, gripping the branch.

Caribbean Elaenia

The Caribbean Elaenia is a type of flycatcher that is endemic to the Caribbean region. Its primary range extends from Puerto Rico through the Lesser Antilles, but it can also be found on the Caribbean coast from Mexico to Nicaragua, the Cayman Islands and the ABC islands (Aruba, Bonaire and Curaçao) off the coast of Venezuela. Our subspecies is found from Puerto Rico to Barbuda and also in the relatively distant ABC islands, a surprising gap considering that a different subspecies occupies the lower Lesser Antilles.

The Caribbean Elaenia is a relatively plain brown bird with a pale underside. It has a long tail and a pair of relatively distinct light bars on its wings that help distinguish it from other small, brown birds that live here. Unlike the Gray Kingbird, the Elaenia seems to be shy: it tends to find perches hidden on a tree's inner branches rather than out in the open—one may be lucky to catch a glimpse of it in flight before it hides in the leafy crown of a nearby tree.

Although it may be hard to spot, the Caribbean Elaenia is much easier to hear. It has both a two-note call and a longer, more melodic song that it sings frequently. According to one bird guide, the song resembles pee-wee-reereeree, but written descriptions of bird songs tend to fail at truly capturing the sound and spirit of the real thing. Local names for this bird include Cheery-cheer and Whistler, both of which refer to its lovely singing voice, as do the French local names Siffleur and Fio-fio.

While not as common as our most familiar birds, the Caribbean Elaenia is readily seen and heard in a variety of habitats, from coastal scrub to hillside forest. It is a species of interest to conservation organizations due to its relatively small geographic range, but it is not considered endangered because it seems to be relatively common within that range. Keep your eyes and ears open for this Caribbean original!

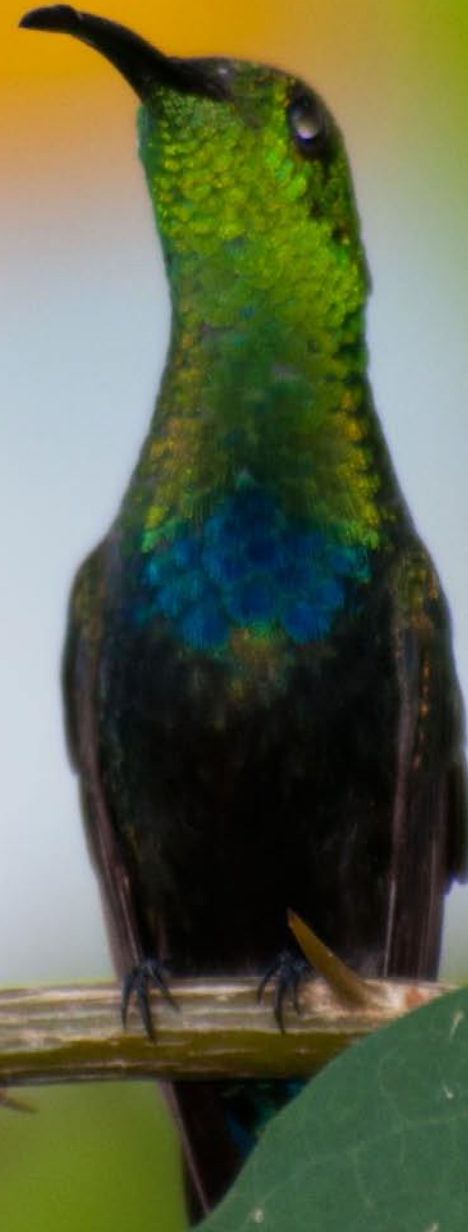


Green-throated Carib

It's the pint-sized bomber careening through your garden, buzzing with wings beating too fast to see. A dark bullet in the shade, it explodes into color when it hits sunlight.

As small as it may be, the Green-throated Carib is the larger of our two hummingbirds. It is practically a giant compared to the Antillean Crested Hummingbird and can also be readily distinguished by its long, curved bill. A third species, the Purple-throated Carib, has been seen on rare occasions, but prefers higher altitudes than are available on our island.

Its coloring can be hard to appreciate when it flies past in a blur, but it is fantastic. Head, back and chin are covered in feathers that reflect a brilliant metallic green. The females tend to be a bit duller, and the males often have hints of yellow-orange in the right light. The chest and rump tend to have reflective blue feathers. It is a true jewel that can only truly be appreciated when glinting under the tropical sun.



The Green-throated Carib is also a true Caribbean endemic, found only from Eastern Puerto Rico to Grenada. Its range is small, and its population is unknown, but for now it is not considered endangered because it seems to be relatively common on the islands where it is found. It is not only a jewel, but one that can only be appreciated on a small arc of islands.

Many of the details of this hummingbird's life history are poorly understood. Like other hummingbirds, the dads take no part in nest-building or child rearing. The female builds a walnut-sized nest where she will raise a pair of chicks on her own. They primarily feed on flower nectar, but also eat insects and spiders, typically caught while flying.



Although we don't know for sure, the Green-throated Carib may be a very important pollinator for certain plants. They have a long bill and preference for nectar-rich, tube-shaped flowers that few other animals could pollinate. Research done on the closely-related Purple-throated Carib indicates that they are the sole pollinator for some species of Heliconia plants. The same could easily be true for our Green-throated Carib.



To spend some time with these beautiful birds, seek locations with flowering plants like aloe or cactus. They will also frequent hummingbird feeders. In areas where good nectar sources are close enough together they will be a reliable presence—and a daily delight—as long as the flowers keep feeding them.

The Forest Katydid

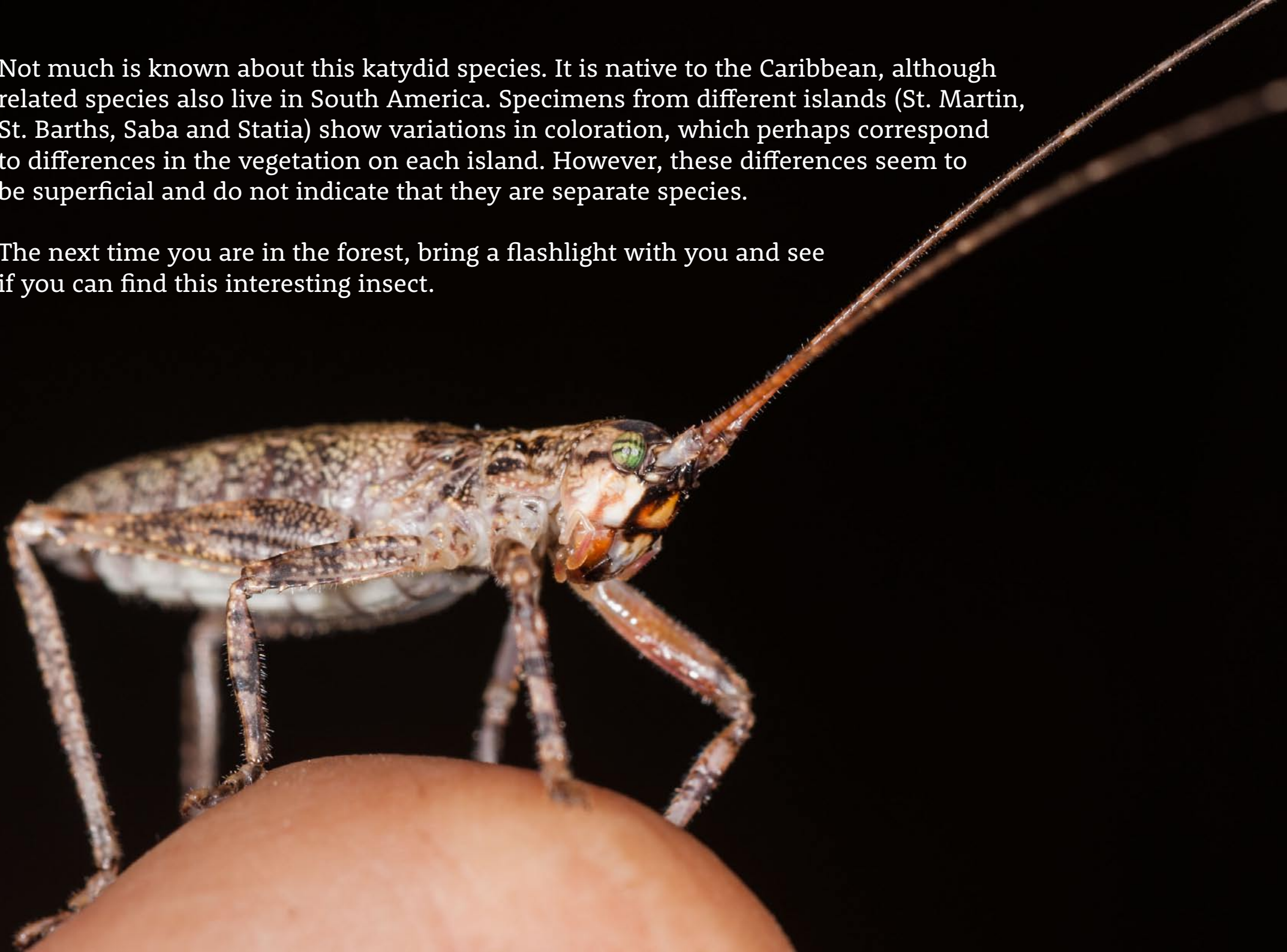
The most familiar katydids on the island are green with leaf-shaped wings, but in the forest there is a very different type of katydid. The Forest Katydid (*Nesonotus tricornis*), is various shades of brown, with patterns that make it blend in on the bark of a tree trunk rather than on leafy branches. It is large, with a stocky, heavy body and shining green eyes.

This katydid feeds on leaves at night and spends its day hidden in the small hollows of tree trunks and branches. Sometimes their long antennae will be visible outside their hiding place, but they are best revealed with a flashlight. Immature forest katydids, known as nymphs, are often gray-brown and sit motionless on branches hoping to blend in.



Not much is known about this katydid species. It is native to the Caribbean, although related species also live in South America. Specimens from different islands (St. Martin, St. Barths, Saba and Statia) show variations in coloration, which perhaps correspond to differences in the vegetation on each island. However, these differences seem to be superficial and do not indicate that they are separate species.

The next time you are in the forest, bring a flashlight with you and see if you can find this interesting insect.





This book was created for the 2016 Endemic Animal Festival. Most of the bird chapters were adapted from Bird Watch SXM articles originally published in the Weekender section of *The Daily Herald*. The katydid chapters were adapted from articles originally published on sxminfo.fr. Les Fruits de Mer's annual Endemic Animal Festival is a free public event for all ages that celebrates St. Martin/St. Maarten's unique wildlife and natural heritage. It's a fantastic opportunity to learn about the animals that only live on this island or in our region. The 2016 event features guided wildlife tours, an Endemic Animal Discovery Station, native animal activity books, and local wildlife-themed art activities for children. It will take place at the St. Maarten Zoo on Arch Road in Madame Estate on Sunday, April 24th from 9am-12pm. The festival is made possible by our sponsors: Buccaneer Beach Bar, Calmos Cafe, Delta Petroleum, Hotel L'Esplanade, Lagoonies Bistro and Bar, Loterie Farm and Tri-sport.

